World Academy of Science, Engineering and Technology
International Journal of Chemical and Molecular Engineering
Vol:8, No:10, 2014

Microwave Assisted Extraction (MAE) of Castor Oil from Castor Bean

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Abstract : The microwave extraction has attracted great interest among the researchers. The main virtue of the microwave technique is cost-effective, time saving and simple handling procedure. Castor beans was chosen because of its high content in fatty acid, especially ricinoleic acid. The purpose of this research is to extract the castor oil by using the microwave assisted extraction (MAE) using ethanol as solvent and to investigate the influence of extraction time on castor oil yield and to characterize the main composition of the produced castor oil by using the GC-MS. It was found that there is a direct dependence between the oil yield and the time of extraction as it increases from 45% to 58% as the time increase from 10 min to 60 min. The major components of castor oil detected by GC-MS were ricinoleic acid, linoleic acid and oleic acid.

Keywords : microwave assisted extraction (MAE), castor oil, ricinoleic acid, linoleic acid
Conference Title : ICCCPEB 2014 : International Conference on Chemistry, Chemical, Process Engineering and Biotechnology
Conference Location : Istanbul, Turkey
Conference Dates : October 27-28, 2014